SEQUENCE LISTING

<110> Godfroi, Edmond
      Bollen, Alex
      Leboulle, Gerard

<120> IDENTIFICATION AND MOLECULAR CHARACERIZATION OF
      PROTEINS, EXPRESSED IN THE IXODES RICINUS SALIVARY
      GLANDS

<130> VANM229.001CP1

<140>
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<150> PCT/BE00/00061
<151> 2000-06-06

<150> GB 9913425.6
<151> 1999-06-09

<160> 34

<170> FastSEQ for Windows Version 3.0

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<212> DNA
<213> Ixodes ricinus

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ataccttcca cttgtagccc ttcctcatcc gatatggtga cggatgccat tgcatcctcg 60
tcgtggaaga ggtcctcttc taaataagac ccatccatat atgtgtgttt gcgaatgccg 120
tcgacgtagc tcctgactag aaactcgtcg gctaggacag aacttttctt caggtttagc 180
gtaatgtcct cgtt 194

<210> 2
<211> 607
<212> DNA
<213> Ixodes ricinus

<220>
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<223> n = A,T,C or G

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tcgcaaatgc acttcccgtg cttgtcgcat ttcgccccaa aagcgcatgg cattccttcc 180
ggcagattaa cttttttcaaa ttcacggttc tgaaccaata atagatcgtg gcaatgtttg 240
tgctgtttgc gatttgcaaa ccagctgtag ccaccattgg actcaaaggt gcgcacaaca 300
tggcgccgaa ctgtgaaaaa caaattaagg ctnctttgta ataacgctag tcttggtacg 360
ccgttagagg tcgatgtcgc gcctcgcgat tgcaaagtca cttgcactta tcaagctcct 420
ggagaaaaat gggtgcaacg gggggatcag cgtttgtact tgcaaacatt tgtggagacg 480
gtaaaccwgt atttcgcgga actcagatgc tccagcgtga agctcgtctt aataaaagtt 540

1

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gtaaattcga gtatngatga agaactgaaa ttcgaggcat ttagaaacac cacgagaagc 600
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<210> 3
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cataagttaa accctgtcat tataagtgtg attgccgtat ctcggctgaa tgggttccat 180
ttttctctta ataatcacg tgtccatatt ccatgtattg tgttcatgag tatgtgattc 240
tcatcgtata tcttcgcct                                               259


<210> 4
<211> 170
<212> DNA
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gtaacagcaa aaacacttac agttgaaggg tgcagtgtca gacgctatgg aagttgcatc 120
cacgagcacr accctgatta ctactggcca cgttgctrtc cgggtcgtcc           170


<210> 5
<211> 168
<212> DNA
<213> Ixodes ricinus

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tgcattgccc ttgacgtact ctctcaacgt tgccaaggac tcaggcccat aaatgtagtg 120
gggttgacct tgaactcttc gtaaaaagcg ttctttctcc gtcgtgag              168


<210> 6
<211> 247
<212> DNA
<213> Ixodes ricinus

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atatactacg agcacgacat tctcaagaac acggttcacg gagtgtggac gagaattcac 120
tcaaaatatc cgttccctga agatgaggga attacactga taatgacagg gtttgattta 180
tggagtgccg atttaactgt aggcggcacc ataacaaaca gcgctgagaa aagcggagct 240
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<210> 7
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2

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1   5   10   15

gta gac aca gcc aac cac aaa ggt aga ggg cgg cct gcg aag tgt aaa   96
Val Asp Thr Ala Asn His Lys Gly Arg Gly Arg Pro Ala Lys Cys Lys
                20   25   30

ctt cct ccg gac gac gga cca tgc aga gca cga att ccg agt tac tac   144
Leu Pro Pro Asp Asp Gly Pro Cys Arg Ala Arg Ile Pro Ser Tyr Tyr
            35   40   45

ttt gat aga aaa acc aaa acg tgc aag gag ttt atg tat ggc gga tgc   192
Phe Asp Arg Lys Thr Lys Thr Cys Lys Glu Phe Met Tyr Gly Gly Cys
        50   55   60

gaa gga aac gaa aac aat ttt gaa aac ata act acg tgc caa gag gaa   240
Glu Gly Asn Glu Asn Asn Phe Glu Asn Ile Thr Thr Cys Gln Glu Glu
65   70   75   80

tgc aga gca aaa aaa gtc tag   261
Cys Arg Ala Lys Lys Val   .
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<210> 8
<211> 86
<212> PRT
<213> Ixodes ricinus

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Met Pro Phe Ile Phe Val Val Ser Leu Val Ile Val Ala Cys Ile Val
1   5   10   15

Val Asp Thr Ala Asn His Lys Gly Arg Gly Arg Pro Ala Lys Cys Lys
                20   25   30

Leu Pro Pro Asp Asp Gly Pro Cys Arg Ala Arg Ile Pro Ser Tyr Tyr
            35   40   45

Phe Asp Arg Lys Thr Lys Thr Cys Lys Glu Phe Met Tyr Gly Gly Cys
        50   55   60

Glu Gly Asn Glu Asn Asn Phe Glu Asn Ile Thr Thr Cys Gln Glu Glu
65   70   75   80

Cys Arg Ala Lys Lys Val
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<210> 9

<211> 292
<212> DNA
<213> Ixodes ricinus

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atcttccaca gcgcttgtcg cacgcctcct gggaatagaa cgcgttctct cctccgcatc 180
tccatttgga atcatagaaa catctttcag tttgaatatt gtagcgataa taatcggtat 240
cagtttcttt gcatggtcct gggagggggtt tggcgcaggg gccgtattca gg 292

<210> 10
<211> 270
<212> DNA
<213> Ixodes ricinus

<400> 10
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tgtaaaatct cataaaaggc tgtgtgtttt ccttaagaag tgtaacagcc acgatggtca 120
atctcacgga tggatgtgtg acacttttat atctcaggtt tgccgacatt gccattacag 180
ataaatagtt gataatttct ttcttgttat agttgtaagc agcgcatgtt gttgcatcaa 240
gcaccacatg cacttcaggc aatatggttt 270

<210> 11
<211> 316
<212> DNA
<213> Ixodes ricinus

<400> 11
agaaagcagt catattggcc atccacaggt cacaatggtt ctctccttga cctggcatcg 60
ggattcgaag tatggtgcag ttcacgtagt tggaatacaa cacgaaatgt gttcgttggt 120
acgccaatag gggttctcgc aaagaacata tcatttggag gaaggcgtag tccgtcgaga 180
tatcccaaaa ctagggtttc attgcgtgcg aaccaactgc ccccacttct gtatgtgtac 240
tgtaaggagt rgttgaacgg ygtcctcttt cccataacct tgaagttttc acactgcaga 300
ggattacctc tcaaaa 316

<210> 12
<211> 241
<212> DNA
<213> Ixodes ricinus

<400> 12
aaggtagcaa gggtggtagg ctttcctcac aaagagtctg gcttccgtga taaccatatc 60
cattcctcac cgtatacccg tcatccaacg tcaattgtgt tacaaggcag ataatgtcaa 120
aatggctctg gtccctataa tagtcggata atgtagaaat cgctccatgt ggccaaatag 180
atgttcctct ttcatactgt tttaacttta attgtaggtc cgcctcgttc tcgaggtatg 240
t 241

<210> 13
<211> 636
<212> DNA
<213> Ixodes ricinus

4

<220>
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<222> (1)...(636)
<223> n = A,T,C or G

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attgcgcatg aaatatttga aatcgagcag aatggtgatt ttaggagcga ttatattgtg 120
ccacccagtt tgaaagtgca agaacgcaca gtggtttacc gtaacaagta caccagagtt 180
cctgtaaatt ttaccgtcga agttgccatg ctgattgata agtatttata cwaggagttc 240
aagaacgaga gccacatcgt accgtacctg gctatgatac tgactttgat aaatctgagg 300
tatgccgaca cacatgaccc gtacatccag tttcttctca cacaagtgtt cgtggggaaw 360
wctggcgatc atatgggcca catgcccttc cgacgagcgt tcttgttcag gcgccggcat 420
tatgcgcagt ttaggcccaa tmacaccttc cacttgtaat tctccgttgt tggatagtgt 480
aagtgaggcc attgcatcag catcgtggaa gargccttcc tccaagtagg aaccgcccat 540
ttaggtttgc tttcccaatc cgccaattta antttaaaa aaaattcccc ccccaaaaat 600
taatttttt taaaggtgga ttgtgatttc tccgtt 636

<210> 14
<211> 432
<212> DNA
<213> Ixodes ricinus

<400> 14
gatcccaaaa gtgcccctgg arcgacggtt acatcatgag ctacgtcata aacttcaaaa 60
accacttcaa attttctccc tgctgtgtag aatcaattcg attcgtcgca cgagagcggg 120
actgcctcta caaagtcaat gccaaggatg ctgtaaaaag cctaatatct ctgcccggat 180
ttaggatatc gccaacgagt ttctgtcaat ttatgcatcc gctttaccgc ggtgtccata 240
gcgataagaa agcaggtctg tccgattgcg tacagacgtg tagaacggcc aaaaatcgac 300
gaggaggcta ccattcatgg attcacgcgg cacttgacgg ggttccttgc gacaagagaa 360
accccaagaa ggcctgcata aacgggaaat gcaccctcct taagagcatg ccccacagaa 420
cgtaccggga at 432

<210> 15
<211> 466
<212> DNA
<213> Ixodes ricinus

<400> 15
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ccaaatctgg cataggttga aytcgcaagt cgtggcgcag caggcctycc acattcactc 120
catcctcgtc ttttaggatg actgccgcca tttgttttgt atcgtggtac aggtgtttgt 180
tatggtccga gccgtcgaca taagtattga ccaacgatcg gccgaatgat tacggctcac 240
caaacacatc aaataccccc gtcaagtcaa gagctggaag cacaaagcat agtatgtaca 300
agatacccctt ggaaatcttt cccgaagttc accttgtggt ggacagcaca tttgccaaag 360
cttttaaatt tgacgtgtac aaagtaacgc gttacttcgc agtgcttaca aatgcggcta 420
atcttaggta tgccagcttc gtatttccaa aagtacagct caggat 466

<210> 16
<211> 377
<212> DNA
<213> Ixodes ricinus

<400> 16

5

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tacactgagt ctccaataaa tatgttttcc ggtgcaattt accttgcagt ctttgacgcc   120
gtatgtaggg tcagcgtgca tgccttcgtc gtacatatac accctctgac agtagttgct   180
cagtgttgtc atcctaccag gaagcttaga cgaacgtttt attgtttttg tcgtgtatcg   240
ttctctaagg catttgaatt ccggacggtt gtagaggttc ctgacttctc gctggcagca   300
ataagagaac tgatactggc gctcgtcttg catcttgtaa ctcatgaggt atccgtcatc   360
ccatgggcag tccgcag                                                  377
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<210> 17
<211> 1670
<212> DNA
<213> Ixodes ricinus

<220>
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<222> (54)..(1517)

<400> 17
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                                                            Met
                                                             1

tcg gga ctc agc ctg aaa ttg tgg att gta gcg ttc ttt tct ttc tgc   104
Ser Gly Leu Ser Leu Lys Leu Trp Ile Val Ala Phe Phe Ser Phe Cys
              5                  10                  15

ttg gcc gag aaa gag cat ggg atc gtg tac ccc agg atg ctt gaa agc   152
Leu Ala Glu Lys Glu His Gly Ile Val Tyr Pro Arg Met Leu Glu Ser
             20                  25                  30

aga gca gca act gga gag aga atg ctt aaa atc aac gat gac ctg acg   200
Arg Ala Ala Thr Gly Glu Arg Met Leu Lys Ile Asn Asp Asp Leu Thr
         35                  40                  45

ttg acg ctg cag aag agt aag gtc ttc gct gac gac ttt ctc ttc agc   248
Leu Thr Leu Gln Lys Ser Lys Val Phe Ala Asp Asp Phe Leu Phe Ser
 50                  55                  60                  65

acg acc gac gga att gaa cct att gat tac tac atc aaa gcc gaa gac   296
Thr Thr Asp Gly Ile Glu Pro Ile Asp Tyr Tyr Ile Lys Ala Glu Asp
                 70                  75                  80

gct gaa cgt gac atc tac cac gac gca act cac atg gca tca gta agg   344
Ala Glu Arg Asp Ile Tyr His Asp Ala Thr His Met Ala Ser Val Arg
                 85                  90                  95

gta acg gac gat gat ggc gtg gaa gtg gaa gga att ctt gga gag agg   392
Val Thr Asp Asp Asp Gly Val Glu Val Glu Gly Ile Leu Gly Glu Arg
            100                 105                 110

ctt cgt gtt aaa cct ttg ccg gca atg gcc cgc agc agc gat ggc ctc   440
Leu Arg Val Lys Pro Leu Pro Ala Met Ala Arg Ser Ser Asp Gly Leu
        115                 120                 125

aga ccg cat atg ttg tac gaa gtc gac gca cac gaa aac ggc cgg cca   488
Arg Pro His Met Leu Tyr Glu Val Asp Ala His Glu Asn Gly Arg Pro
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6

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cat gat tat ggt tca ccg aac aca aca aat acc ccc gta gag aga aga    536
His Asp Tyr Gly Ser Pro Asn Thr Thr Asn Thr Pro Val Glu Arg Arg
            150               155               160

gct gga ggc aca gaa ccc cag atg tac aag ata cca gcg gaa atc tat    584
Ala Gly Gly Thr Glu Pro Gln Met Tyr Lys Ile Pro Ala Glu Ile Tyr
            165               170               175

ccc gaa gtt tac ctt gtg gcg gat agt gcc ttt gcc aaa gaa ttt aac    632
Pro Glu Val Tyr Leu Val Ala Asp Ser Ala Phe Ala Lys Glu Phe Asn
            180               185               190

ttt gat gtg aac gcc gtt acg cgt tac ttc gca gtg ctt aca aat gcg    680
Phe Asp Val Asn Ala Val Thr Arg Tyr Phe Ala Val Leu Thr Asn Ala
            195               200               205

gct aat ctt agg tat gaa agc ttc aaa tct cca aag gta cag ctc agg    728
Ala Asn Leu Arg Tyr Glu Ser Phe Lys Ser Pro Lys Val Gln Leu Arg
210               215               220               225

atc gtt ggc ata acg atg aac aaa aac cca gca gac gag cca tac att    776
Ile Val Gly Ile Thr Met Asn Lys Asn Pro Ala Asp Glu Pro Tyr Ile
            230               235               240

cac aat ata cgg gga tat gag cag tac cgg aat att ttg ttt aag gaa    824
His Asn Ile Arg Gly Tyr Glu Gln Tyr Arg Asn Ile Leu Phe Lys Glu
            245               250               255

aca ctg gag gat ttc aac act cag atg aag tca aaa cat ttt tat cgt    872
Thr Leu Glu Asp Phe Asn Thr Gln Met Lys Ser Lys His Phe Tyr Arg
            260               265               270

act gcc gat atc gtg ttt ctc gtg aca gca aaa aat atg tcc gaa tgg    920
Thr Ala Asp Ile Val Phe Leu Val Thr Ala Lys Asn Met Ser Glu Trp
            275               280               285

gtt ggt agc aca cta caa tca tgg act ggc ggg tac gct tac gta gga    968
Val Gly Ser Thr Leu Gln Ser Trp Thr Gly Gly Tyr Ala Tyr Val Gly
290               295               300               305

aca gcg tgt tcc gaa tgg aaa gta gga atg tgt gaa gac cga ccg aca   1016
Thr Ala Cys Ser Glu Trp Lys Val Gly Met Cys Glu Asp Arg Pro Thr
            310               315               320

agc tat tac gga gct tac gtt ttc gcc cat gag ctg gcg cat aat ttg   1064
Ser Tyr Tyr Gly Ala Tyr Val Phe Ala His Glu Leu Ala His Asn Leu
            325               330               335

ggt tgt caa cac gat gga gat ggt gcc aat agc tgg gtg aaa ggg cac   1112
Gly Cys Gln His Asp Gly Asp Gly Ala Asn Ser Trp Val Lys Gly His
            340               345               350

atc gga tct gcg gac tgc cca tgg gat gac gga tac ctt atg agc tac   1160
Ile Gly Ser Ala Asp Cys Pro Trp Asp Asp Gly Tyr Leu Met Ser Tyr
355               360               365
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7

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aag atg gaa gac gag cgc cag tat aag ttt tct ccc tac tgc cag aga    1208
Lys Met Glu Asp Glu Arg Gln Tyr Lys Phe Ser Pro Tyr Cys Gln Arg
370             375             380                 385

gaa gtc agg aac ctc tac agg cgt ccg gaa ttc aaa tgc ctc act gaa    1256
Glu Val Arg Asn Leu Tyr Arg Arg Pro Glu Phe Lys Cys Leu Thr Glu
                390             395                 400

cga aaa gcg aaa aaa aca atc cgc tcg tct aag cta cct ggt gtg atg    1304
Arg Lys Ala Lys Lys Thr Ile Arg Ser Ser Lys Leu Pro Gly Val Met
            405             410             415

aca tca tcg agc aac tat tgc cgg agg gtg tac atg tac gaa aaa ggc    1352
Thr Ser Ser Ser Asn Tyr Cys Arg Arg Val Tyr Met Tyr Glu Lys Gly
            420             425             430

atg cac gcc gac gag gca tat ggc gtc aag gac tgc agg gta aaa tgc    1400
Met His Ala Asp Glu Ala Tyr Gly Val Lys Asp Cys Arg Val Lys Cys
    435             440             445

acc acc aca tca aga atg tat tgg cta ctc ggt gta gtc gac ggt aca    1448
Thr Thr Thr Ser Arg Met Tyr Trp Leu Leu Gly Val Val Asp Gly Thr
450             455             460                 465

cct tgc gga aat gga aag gct tgc att ctt ggg aaa tgc agg aac aaa    1496
Pro Cys Gly Asn Gly Lys Ala Cys Ile Leu Gly Lys Cys Arg Asn Lys
            470             475             480

atc aaa ata agc aag aag gac tgagaggttg ataatatcaa attaatcatg      1547
Ile Lys Ile Ser Lys Lys Asp
            485

atatttcaac cacatgactt cgtgctcaac tggtagcccc aaataaattt taaaaaaaat 1607

cccaatatgc gtggtagaaa aagcagcaaa caataaaact tctaaaaatg tcttgcaaaa 1667

atg                                                               1670
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<210> 18
<211> 488
<212> PRT
<213> Ixodes ricinus

<400> 18
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Met Ser Gly Leu Ser Leu Lys Leu Trp Ile Val Ala Phe Phe Ser Phe
1               5               10                  15

Cys Leu Ala Glu Lys Glu His Gly Ile Val Tyr Pro Arg Met Leu Glu
            20              25                  30

Ser Arg Ala Ala Thr Gly Glu Arg Met Leu Lys Ile Asn Asp Asp Leu
        35              40                  45

Thr Leu Thr Leu Gln Lys Ser Lys Val Phe Ala Asp Asp Phe Leu Phe
    50              55                  60
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8

Ser Thr Thr Asp Gly Ile Glu Pro Ile Asp Tyr Tyr Ile Lys Ala Glu
 65   70   75   80

Asp Ala Glu Arg Asp Ile Tyr His Asp Ala Thr His Met Ala Ser Val
                 85   90   95

Arg Val Thr Asp Asp Asp Gly Val Glu Val Glu Gly Ile Leu Gly Glu
                100   105   110

Arg Leu Arg Val Lys Pro Leu Pro Ala Met Ala Arg Ser Ser Asp Gly
        115   120   125

Leu Arg Pro His Met Leu Tyr Glu Val Asp Ala His Glu Asn Gly Arg
    130   135   140

Pro His Asp Tyr Gly Ser Pro Asn Thr Thr Asn Thr Pro Val Glu Arg
145   150   155   160

Arg Ala Gly Gly Thr Glu Pro Gln Met Tyr Lys Ile Pro Ala Glu Ile
                165   170   175

Tyr Pro Glu Val Tyr Leu Val Ala Asp Ser Ala Phe Ala Lys Glu Phe
        180   185   190

Asn Phe Asp Val Asn Ala Val Thr Arg Tyr Phe Ala Val Leu Thr Asn
        195   200   205

Ala Ala Asn Leu Arg Tyr Glu Ser Phe Lys Ser Pro Lys Val Gln Leu
    210   215   220

Arg Ile Val Gly Ile Thr Met Asn Lys Asn Pro Ala Asp Glu Pro Tyr
225   230   235   240

Ile His Asn Ile Arg Gly Tyr Glu Gln Tyr Arg Asn Ile Leu Phe Lys
                245   250   255

Glu Thr Leu Glu Asp Phe Asn Thr Gln Met Lys Ser Lys His Phe Tyr
        260   265   270

Arg Thr Ala Asp Ile Val Phe Leu Val Thr Ala Lys Asn Met Ser Glu
        275   280   285

Trp Val Gly Ser Thr Leu Gln Ser Trp Thr Gly Gly Tyr Ala Tyr Val
    290   295   300

Gly Thr Ala Cys Ser Glu Trp Lys Val Gly Met Cys Glu Asp Arg Pro
305   310   315   320

Thr Ser Tyr Tyr Gly Ala Tyr Val Phe Ala His Glu Leu Ala His Asn
                325   330   335

Leu Gly Cys Gln His Asp Gly Asp Gly Ala Asn Ser Trp Val Lys Gly
        340   345   350

His Ile Gly Ser Ala Asp Cys Pro Trp Asp Asp Gly Tyr Leu Met Ser
        355   360   365

9

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Tyr Lys Met Glu Asp Glu Arg Gln Tyr Lys Phe Ser Pro Tyr Cys Gln
    370             375             380

Arg Glu Val Arg Asn Leu Tyr Arg Arg Pro Glu Phe Lys Cys Leu Thr
385             390             395             400

Glu Arg Lys Ala Lys Lys Thr Ile Arg Ser Ser Lys Leu Pro Gly Val
            405             410             415

Met Thr Ser Ser Ser Asn Tyr Cys Arg Arg Val Tyr Met Tyr Glu Lys
        420             425             430

Gly Met His Ala Asp Glu Ala Tyr Gly Val Lys Asp Cys Arg Val Lys
        435             440             445

Cys Thr Thr Thr Ser Arg Met Tyr Trp Leu Leu Gly Val Val Asp Gly
    450             455             460

Thr Pro Cys Gly Asn Gly Lys Ala Cys Ile Leu Gly Lys Cys Arg Asn
465             470             475             480

Lys Ile Lys Ile Ser Lys Lys Asp
                485
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<210> 19
<211> 158
<212> DNA
<213> Ixodes ricinus

<400> 19
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caccagtgat gcttattgtt gcactgcact tgttgataat atccggtcgt cgaattgcac 60
ttcggaactt ccactccaac ttggcgagcc gtggattttg acttctcgtg atgctccacc 120
agacagttgc aggacttcag ctgcctagat ggagcctt                        158
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<210> 20
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<212> DNA
<213> Ixodes ricinus

<220>
<221> misc_feature
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<223> n = A,T,C or G

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tccccgcccc ttgacaatcg tccgataaaa accaactata ttcngtcctt tttacaaaca 120
attccaantg tctgaccgaa ccgcga                                      146
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<210> 21
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<212> DNA

<213> Ixodes ricinus

<220>
<221> unsure
<222> (3)
<223> A,C,T or G

<220>
<221> unsure
<222> (10)
<223> A,C,T or G

<220>
<221> unsure
<222> (30)
<223> A,C,T or G

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tttgcttcgg tttttcggtg ggcgcaggtg tatagtcatc agtgtcggtg ggcccatccg 120
aatgagttgt caaatgacat   140

<210> 22
<211> 143
<212> DNA
<213> Ixodes ricinus

<400> 22
tgccgaaaaa taacgatgat ttgacgttga ctctgcagaa gagtaaggtt ttcaccgaca 60
gttttctgtt tagcacgacg aaggataacg agcctatcga ttactacgtg agagccgaag 120
atgccgaacg agacatatat cac   143

<210> 23
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<212> DNA
<213> Ixodes ricinus

<220>
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<223> n = A,T,C or G

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atatttaagt gcgttcgtga wagctgtggg cttacgattg caggcgcttc antcaccagc 120
tgtgatatta magttcctag   140

<210> 24
<211> 144
<212> DNA
<213> Ixodes ricinus

<400> 24
tcacgatagt tgaaacgttg aaacttgaaa tactcccaca gtcgttggat gcttcagaac 60

11

tgctaagaac ttcacacttt gcaagaagtw ccaaaatgaa agccgcgatg accgatgatt 120
tagcttccat cttctatcac ttga   144

<210> 25
<211> 95
<212> DNA
<213> Ixodes ricinus

<400> 25
gaccaccccg tccgaacttg ctaaakcaag caatggagtg aggtgttcta tgcgggttga 60
ttacaccaat ggcgctgcgt ggtgcgtggt gattt   95

<210> 26
<211> 1414
<212> DNA
<213> Ixodes ricinus

<220>
<221> CDS
<222> (143)..(1273)

<400> 26
gtagggccgt gcaagcgaag gcagcgaagg ctgcgagtgt acgtgcagtt cggaagtgca 60

atatcctgtt attaagctct aattagcaca ctgtgagtcg atcagaggcc tctcttaacg 120

ccacattgaa aaaggatcca ag atg gag gca agt ctg agc aac cac atc ctt 172
                         Met Glu Ala Ser Leu Ser Asn His Ile Leu
                          1   5   10

aac ttc tcc gtc gac cta tac aag cag ctg aaa ccc tcc ggc aaa gac   220
Asn Phe Ser Val Asp Leu Tyr Lys Gln Leu Lys Pro Ser Gly Lys Asp
                 15   20   25

acg gca gga aac gtc ttc tgc tca cca ttc agt att gca gct gct ctg   268
Thr Ala Gly Asn Val Phe Cys Ser Pro Phe Ser Ile Ala Ala Ala Leu
             30   35   40

tcc atg gcc ctc gca gga gct aga ggc aac act gcc aag caa atc gct   316
Ser Met Ala Leu Ala Gly Ala Arg Gly Asn Thr Ala Lys Gln Ile Ala
         45   50   55

gcc atc ctg cac tca aac gac gac aag atc cac gac cac ttc tcc aac   364
Ala Ile Leu His Ser Asn Asp Asp Lys Ile His Asp His Phe Ser Asn
     60   65   70

ttc ctt tgc aag ctt ccc agt tac gcc cca gat gtg gcc ctg cac atc   412
Phe Leu Cys Lys Leu Pro Ser Tyr Ala Pro Asp Val Ala Leu His Ile
 75   80   85   90

gcc aat cgc atg tac tct gag cag acc ttc cat ccg aaa gcg gag tac   460
Ala Asn Arg Met Tyr Ser Glu Gln Thr Phe His Pro Lys Ala Glu Tyr
                 95   100   105

aca acc ctg ttg caa aag tcc tac gac agc acc atc aag gct gtt gac   508

12

```
Thr Thr Leu Leu Gln Lys Ser Tyr Asp Ser Thr Ile Lys Ala Val Asp
            110                 115             120

ttt gca gga aat gcc gac agg gtc cgt ctg gag gtc aat gcc tgg gtt      556
Phe Ala Gly Asn Ala Asp Arg Val Arg Leu Glu Val Asn Ala Trp Val
        125                 130                 135

gag gaa gtc acc agg tca aag atc agg gac ctg ctc gca cct gga act      604
Glu Glu Val Thr Arg Ser Lys Ile Arg Asp Leu Leu Ala Pro Gly Thr
        140                 145                 150

gtt gat tca tcg aca tca ctt ata tta gtg aat gcc att tac ttc aaa      652
Val Asp Ser Ser Thr Ser Leu Ile Leu Val Asn Ala Ile Tyr Phe Lys
155                 160                 165                 170

ggt ctg tgg gat tct cag ttc aag cct agt gct acg aag ccg gga gat      700
Gly Leu Trp Asp Ser Gln Phe Lys Pro Ser Ala Thr Lys Pro Gly Asp
                175                 180                 185

ttt cac ttg aca cca cag acc tca aag aaa gtg gac atg atg cac cag      748
Phe His Leu Thr Pro Gln Thr Ser Lys Lys Val Asp Met Met His Gln
                190.                195                 200

gaa ggg gac ttc aag atg ggt cac tgc agc gac ctc aag gtc act gcg      796
Glu Gly Asp Phe Lys Met Gly His Cys Ser Asp Leu Lys Val Thr Ala
        205                 210                 215

ctt gag ata ccc tac aaa ggc aac aag acg tcg atg gtc att ctc ctg      844
Leu Glu Ile Pro Tyr Lys Gly Asn Lys Thr Ser Met Val Ile Leu Leu
        220                 225                 230

ccc gaa gat gta gag gga ctc tca gtc ctg gag gaa cac ttg acc gct      892
Pro Glu Asp Val Glu Gly Leu Ser Val Leu Glu Glu His Leu Thr Ala
235                 240                 245                 250

ccg aaa ctg tcg gct ctg ctc ggc ggc atg tat gcg acg tcc gat gtc      940
Pro Lys Leu Ser Ala Leu Leu Gly Gly Met Tyr Ala Thr Ser Asp Val
                255                 260                 265

aac ttg cgc ttg ccg aag ttc aaa cta gag cag tcc ata ggt ttg aag      988
Asn Leu Arg Leu Pro Lys Phe Lys Leu Glu Gln Ser Ile Gly Leu Lys
                270                 275                 280

gat gta ctg atg gcg atg gga gtc aag gat ttc ttc acg tcc ctt gca     1036
Asp Val Leu Met Ala Met Gly Val Lys Asp Phe Phe Thr Ser Leu Ala
        285                 290                 295

gat ctt tct ggc atc agc gct gcg ggg aat ctg tgc gct tcg gat gtc     1084
Asp Leu Ser Gly Ile Ser Ala Ala Gly Asn Leu Cys Ala Ser Asp Val
        300                 305                 310

atc cac aag gct ttt gtg gaa gtt aat gag gag ggc aca gag gct gca     1132
Ile His Lys Ala Phe Val Glu Val Asn Glu Glu Gly Thr Glu Ala Ala
315                 320                 325                 330

gct gcc act gcc ata ccc att atg ttg atg tgt gcg aga ttt cca cag     1180
Ala Ala Thr Ala Ile Pro Ile Met Leu Met Cys Ala Arg Phe Pro Gln
```

13

```
gtg gtg aac ttt ttc gtt gac cgc cca ttc atg ttc ttg atc cac agc   1228
Val Val Asn Phe Phe Val Asp Arg Pro Phe Met Phe Leu Ile His Ser
            350             355             360

cat gat cca gat gtt gtt ctc ttc atg gga tcc atc cgt gag ctc       1273
His Asp Pro Asp Val Val Leu Phe Met Gly Ser Ile Arg Glu Leu
            365             370             375

taaaaagcat attcttaacg gcggccaatc agtctgtgga gttatctctt agtcactaat 1333

gtgtaacaat tctgcaatat tcagcttgtg tatttcagta acttgctaga tctttgtgtt 1393

gttgatgtta ggcttcttgc g                                           1414
```

<210> 27
<211> 377
<212> PRT
<213> Ixodes ricinus

<400> 27

Met Glu Ala Ser Leu Ser Asn His Ile Leu Asn Phe Ser Val Asp Leu
1   5   10   15

Tyr Lys Gln Leu Lys Pro Ser Gly Lys Asp Thr Ala Gly Asn Val Phe
                20   25   30

Cys Ser Pro Phe Ser Ile Ala Ala Ala Leu Ser Met Ala Leu Ala Gly
            35   40   45

Ala Arg Gly Asn Thr Ala Lys Gln Ile Ala Ala Ile Leu His Ser Asn
        50   55   60

Asp Asp Lys Ile His Asp His Phe Ser Asn Phe Leu Cys Lys Leu Pro
65   70   75   80

Ser Tyr Ala Pro Asp Val Ala Leu His Ile Ala Asn Arg Met Tyr Ser
                85   90   95

Glu Gln Thr Phe His Pro Lys Ala Glu Tyr Thr Thr Leu Leu Gln Lys
                100   105   110

Ser Tyr Asp Ser Thr Ile Lys Ala Val Asp Phe Ala Gly Asn Ala Asp
            115   120   125

Arg Val Arg Leu Glu Val Asn Ala Trp Val Glu Glu Val Thr Arg Ser
        130   135   140

Lys Ile Arg Asp Leu Leu Ala Pro Gly Thr Val Asp Ser Ser Thr Ser
145   150   155   160

Leu Ile Leu Val Asn Ala Ile Tyr Phe Lys Gly Leu Trp Asp Ser Gln
                165   170   175

Phe Lys Pro Ser Ala Thr Lys Pro Gly Asp Phe His Leu Thr Pro Gln

Thr Ser Lys Lys Val Asp Met Met His Gln Glu Gly Asp Phe Lys Met
        195   200   205

Gly His Cys Ser Asp Leu Lys Val Thr Ala Leu Glu Ile Pro Tyr Lys
        210   215   220

Gly Asn Lys Thr Ser Met Val Ile Leu Leu Pro Glu Asp Val Glu Gly
225   230   235   240

Leu Ser Val Leu Glu Glu His Leu Thr Ala Pro Lys Leu Ser Ala Leu
                245   250   255

Leu Gly Gly Met Tyr Ala Thr Ser Asp Val Asn Leu Arg Leu Pro Lys
                260   265   270

Phe Lys Leu Glu Gln Ser Ile Gly Leu Lys Asp Val Leu Met Ala Met
        275   280   285

Gly Val Lys Asp Phe Phe Thr Ser Leu Ala Asp Leu Ser Gly Ile Ser
        290   295   300

Ala Ala Gly Asn Leu Cys Ala Ser Asp Val Ile His Lys Ala Phe Val
305   310   315   320

Glu Val Asn Glu Glu Gly Thr Glu Ala Ala Ala Thr Ala Ile Pro
                325   330   335

Ile Met Leu Met Cys Ala Arg Phe Pro Gln Val Val Asn Phe Phe Val
                340   345   350

Asp Arg Pro Phe Met Phe Leu Ile His Ser His Asp Pro Asp Val Val
        355   360   365

Leu Phe Met Gly Ser Ile Arg Glu Leu
        370   375

<210> 28
<211> 200
<212> DNA
<213> Ixodes ricinus

<400> 28
accgtaacca aaattgtttc tttccagaag aatggttcaa acttttcaaa cagatttcgg 60
aaactcttct tgcactttta aaatccaatc tacaatcttt cctcgcactt ctgaattgca 120
ttccagtttta ccttccaagc aaacctcttt tggcaactcc agccgtactc catttcggca 180
taccacagtg catgcacttg   200

<210> 29
<211> 241
<212> DNA
<213> Ixodes ricinus

<400> 29
cgtattcttt gaagatttgt atacgaaaca taaattcgtc atgcatactt ttgatggtta 60
cacgacatgc gaagctgccg acaaagaaga ctgggaagat aagaagcacc tagttacggt 120
agtgcgtgga ccggataaac gaaagtacac gtttctacgc aacattctca ccttacaacg 180
gagagtgaga gttagcaaaa caatgattga gctcgtacgg aacatgtcct gtaggacatt 240
t 241

<210> 30
<211> 313
<212> DNA
<213> Ixodes ricinus

<220>
<221> misc_feature
<222> (1)...(313)
<223> n = A,T,C or G

<400> 30
aagcanccgg actacctgct tgaaaacgtt gtacgggcaa acttggacgg aaaactccca 60
gatgctactc cagttcctcc cggaagctac acgtacgctg agaatgataa cttcacctgc 120
tattccagaa gtacaccgtt tccggatggg gtgaatgttg tataacggct gctgggtgcg 180
gaagactatg atggattacg caaaaaagtt ctaaacgagt tgtttcccat cccggaaagt 240
ctgctgtatg ctgacatgat gcgacttgtg gctaagaaag acagagttga tcacactagt 300
ggatgacctg gga 313

<210> 31
<211> 2417
<212> DNA
<213> Ixodes ricinus

<220>
<221> CDS
<222> (218)..(1492)

<400> 31
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gtcgtagtcg tagtcgtagt cagttgcgca tgcgcggggc tttcctgtct ttcttgcctt   60

tctgcagtcg ttcaccaaca tgtggataca gctccggaga tttgtaaaca atactgcac   120

ttttaagcaa gacttgatat ttagatcgat atcctcctgt tgtccgtctt gattaatcgg  180

ctctttaggg tttttagaat aggctttttcg gtacgag atg ccc aaa gga aag agg   235
                                        Met Pro Lys Gly Lys Arg
                                         1                   5


gga ccc aaa gca ggt ggc gcc gcg cgc ggt ggc cgg tgc gag gcc agc   283
Gly Pro Lys Ala Gly Gly Ala Ala Arg Gly Gly Arg Cys Glu Ala Ser
            10                  15                  20


ctg gct ccg tcg tcc agc gac gag gag tcc aac gca gac acg gcg agc   331
Leu Ala Pro Ser Ser Ser Asp Glu Glu Ser Asn Ala Asp Thr Ala Ser
        25                  30                  35


gtg ctg agc tgc gcc tcg gag tct cgc tgt ggc agt gac ggc acc gtt   379
Val Leu Ser Cys Ala Ser Glu Ser Arg Cys Gly Ser Asp Gly Thr Val
```

16

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                 40                       45                        50

gga gac cca gaa gcg gag gag gct gtg ctg cat gac gac ttt gaa gac    427
Gly Asp Pro Glu Ala Glu Glu Ala Val Leu His Asp Asp Phe Glu Asp
 55                      60                  65                  70

aaa ctc aag gag gcc atc gac gga gct tcg cag aag agt gcc aaa gga    475
Lys Leu Lys Glu Ala Ile Asp Gly Ala Ser Gln Lys Ser Ala Lys Gly
                    75                  80                  85

cgg ctg tcg tgc ctg gag gcg att cgc aag gcc ttt tcc acc aaa tac    523
Arg Leu Ser Cys Leu Glu Ala Ile Arg Lys Ala Phe Ser Thr Lys Tyr
                90                  95                 100

ctg tac gac ttc ctc atg gac aga ccg agc acg gtg tgc gac ctg gtg    571
Leu Tyr Asp Phe Leu Met Asp Arg Pro Ser Thr Val Cys Asp Leu Val
            105                 110                 115

gag cgt ggg gtg cgc aag ggc cga ggg gag gag gcg gcc ctg tgc gcc    619
Glu Arg Gly Val Arg Lys Gly Arg Gly Glu Glu Ala Ala Leu Cys Ala
        120                 125                 130

act ctc ggg gcc ctg gcc tgc gtc cag ctc ggg gtc ggg gcc gag gcg    667
Thr Leu Gly Ala Leu Ala Cys Val Gln Leu Gly Val Gly Ala Glu Ala
135                 140                 145                 150

gac gcc ctg ttc gac gcc ctg cgc cag ccg ctc tgc act ttg ctg ctt    715
Asp Ala Leu Phe Asp Ala Leu Arg Gln Pro Leu Cys Thr Leu Leu Leu
                155                 160                 165

gac ggg gcc cag ggg ccc tcc ccc agg gcc agg tgt gcc act gcc ctc    763
Asp Gly Ala Gln Gly Pro Ser Pro Arg Ala Arg Cys Ala Thr Ala Leu
            170                 175                 180

ggc ctc tgc tgc ttc gtg gtg gac tcg gac aac cag ctg gtg ctg cag    811
Gly Leu Cys Cys Phe Val Val Asp Ser Asp Asn Gln Leu Val Leu Gln
            185                 190                 195

ccg tgc atg gag gtg ctc tgg cag gtg gtg ggt gcc aag gcg ggc ccc    859
Pro Cys Met Glu Val Leu Trp Gln Val Val Gly Ala Lys Ala Gly Pro
        200                 205                 210

ggc tct ccg gtg ctc cag gca gcg gcc ctg ctc gcc tgg ggc ctc ctg    907
Gly Ser Pro Val Leu Gln Ala Ala Ala Leu Leu Ala Trp Gly Leu Leu
215                 220                 225                 230

ctc agc gtg gct ccc gtc gac cgc ctg ctg gcg ctc acg cgc acg cac    955
Leu Ser Val Ala Pro Val Asp Arg Leu Leu Ala Leu Thr Arg Thr His
                235                 240                 245

ctg ccc cgg ctg cag gag ctg ctg gag agc ccc gac ctg gac ctg cgc    1003
Leu Pro Arg Leu Gln Glu Leu Leu Glu Ser Pro Asp Leu Asp Leu Arg
            250                 255                 260

att gcg gcc ggg gag gtg atc gcc gtc atg tac gag ggg gcc agg gac    1051
Ile Ala Ala Gly Glu Val Ile Ala Val Met Tyr Glu Gly Ala Arg Asp
        265                 270                 275
```

```
tac gac gag gac ttt gag gag ccc tcg gag tcc ctg tgt gcc cag ctg   1099
Tyr Asp Glu Asp Phe Glu Glu Pro Ser Glu Ser Leu Cys Ala Gln Leu
    280                 285                 290

cgc cag ctg gcc acg gac agc cag aag ttt cgg gcc aag aag gag cgg   1147
Arg Gln Leu Ala Thr Asp Ser Gln Lys Phe Arg Ala Lys Lys Glu Arg
295                 300                 305                 310

cgc cag cag cgc tcc acc ttc agg gac gtc tac cgg gcc gtc agg gag   1195
Arg Gln Gln Arg Ser Thr Phe Arg Asp Val Tyr Arg Ala Val Arg Glu
                315                 320                 325

ggg gcc tct ccc gac gtg agc gtc aag ttt ggc cgg gaa gtc ctg gaa   1243
Gly Ala Ser Pro Asp Val Ser Val Lys Phe Gly Arg Glu Val Leu Glu
                330                 335                 340

ctg gac acc tgg agt cgc aag ctg cag tac gac gct ttc tgc cag ctg   1291
Leu Asp Thr Trp Ser Arg Lys Leu Gln Tyr Asp Ala Phe Cys Gln Leu
        345                 350                 355

ctg ggc tcc ggc atg aac ctg cac ctg gcc gtg aac gag ctg ctg agg   1339
Leu Gly Ser Gly Met Asn Leu His Leu Ala Val Asn Glu Leu Leu Arg
    360                 365                 370

gac atc ttt gaa ctg ggg cag gtg ctg gca acc gag gac cac att atc   1387
Asp Ile Phe Glu Leu Gly Gln Val Leu Ala Thr Glu Asp His Ile Ile
375                 380                 385                 390

tcc aag atc acc aag ttc gaa agg cac atg gtg aac atg gcc agc tgc   1435
Ser Lys Ile Thr Lys Phe Glu Arg His Met Val Asn Met Ala Ser Cys
                395                 400                 405

cgg gcc cgc acc aag aca cgc aac cgg ctg agg gac aag cgc gcc gac   1483
Arg Ala Arg Thr Lys Thr Arg Asn Arg Leu Arg Asp Lys Arg Ala Asp
                410                 415                 420

gtg gtc gcc tgaacctgcg gagggatgct tagctatgca ctcgccggcc           1532
Val Val Ala
        425

taccctggcg ggactcgatg ccactcacga gtcggcgctc gcaaattcgc cgcccatcgt 1592

tacgcaatgg gagacaaagc tgcttttggc attaccgttt gaggtcggct ccaacccata 1652

gatgaatttc ttttttgtgg ccgtttctgg gttacatgtt ttgggggaag ggagtggaac 1712

tgtccggttc tttggcacac gtcaggttgc tcttgatgcg cgacgtgctt gtatttgggt 1772

actgccgaca ccaagcgttt cggcgattcc tggaaaagag tgcctctcgc tcgacgtttg 1832

gttgttttct gcgtggtccg tcgtcgacct tcgttcgtcc aaagacgccg tccggtttca 1892

tactcccccc cgcacacata tcgaggccaa ttaaattgct aagggtgccg ttgtcgtgca 1952

tctggcaggc tcagaagtgg cttatttgtc ttttaatttt gccgatgcac gcaaaaattg 2012
```

18

tcatttcttg aaagtttctc ttttattgcg tacacaattc aactttatg taatttctga 2072

tggtctgttt tacgtgtgcg tgtgtaaaac gtaactttgg aagaatttt atgcacactg 2132

aacaaacgct cggtcctggg gttgaaagtg ctcggtgtgt gcatgagcta aagtgcaact 2192

gctttgttcc gaaggttttc tagtcgccga aatgtaccat tgtggacctt gttgcgagag 2252

accttggtct tctgggggag ctgctgtagc gtggcaagcc actattttgg gagcgacatt 2312

gcagagaaaa tcggctttta gaaaggcacc tgcgcggcga gtggacgttt tttcgtatat 2372

actgcgaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa aaaaa 2417

<210> 32
<211> 425
<212> PRT
<213> Ixodes ricinus

<400> 32

```
Met Pro Lys Gly Lys Arg Gly Pro Lys Ala Gly Gly Ala Ala Arg Gly
 1               5                  10                  15

Gly Arg Cys Glu Ala Ser Leu Ala Pro Ser Ser Ser Asp Glu Glu Ser
            20                  25                  30

Asn Ala Asp Thr Ala Ser Val Leu Ser Cys Ala Ser Glu Ser Arg Cys
            35                  40                  45

Gly Ser Asp Gly Thr Val Gly Asp Pro Glu Ala Glu Glu Ala Val Leu
        50                  55                  60

His Asp Asp Phe Glu Asp Lys Leu Lys Glu Ala Ile Asp Gly Ala Ser
 65                  70                  75                  80

Gln Lys Ser Ala Lys Gly Arg Leu Ser Cys Leu Glu Ala Ile Arg Lys
                85                  90                  95

Ala Phe Ser Thr Lys Tyr Leu Tyr Asp Phe Leu Met Asp Arg Pro Ser
            100                 105                 110

Thr Val Cys Asp Leu Val Glu Arg Gly Val Arg Lys Gly Arg Gly Glu
            115                 120                 125

Glu Ala Ala Leu Cys Ala Thr Leu Gly Ala Leu Ala Cys Val Gln Leu
    130                 135                 140

Gly Val Gly Ala Glu Ala Asp Ala Leu Phe Asp Ala Leu Arg Gln Pro
145                 150                 155                 160

Leu Cys Thr Leu Leu Leu Asp Gly Ala Gln Gly Pro Ser Pro Arg Ala
                165                 170                 175

Arg Cys Ala Thr Ala Leu Gly Leu Cys Cys Phe Val Val Asp Ser Asp
            180                 185                 190
```

19

Asn Gln Leu Val Leu Gln Pro Cys Met Glu Val Leu Trp Gln Val Val
        195   200   205

Gly Ala Lys Ala Gly Pro Gly Ser Pro Val Leu Gln Ala Ala Ala Leu
        210   215   220

Leu Ala Trp Gly Leu Leu Leu Ser Val Ala Pro Val Asp Arg Leu Leu
225   230   235   240

Ala Leu Thr Arg Thr His Leu Pro Arg Leu Gln Glu Leu Leu Glu Ser
                245   250   255

Pro Asp Leu Asp Leu Arg Ile Ala Ala Gly Glu Val Ile Ala Val Met
                260   265   270

Tyr Glu Gly Ala Arg Asp Tyr Asp Glu Asp Phe Glu Glu Pro Ser Glu
        275   280   285

Ser Leu Cys Ala Gln Leu Arg Gln Leu Ala Thr Asp Ser Gln Lys Phe
        290   295   300

Arg Ala Lys Lys Glu Arg Arg Gln Gln Arg Ser Thr Phe Arg Asp Val
305   310   315   320

Tyr Arg Ala Val Arg Glu Gly Ala Ser Pro Asp Val Ser Val Lys Phe
                325   330   335

Gly Arg Glu Val Leu Glu Leu Asp Thr Trp Ser Arg Lys Leu Gln Tyr
                340   345   350

Asp Ala Phe Cys Gln Leu Leu Gly Ser Gly Met Asn Leu His Leu Ala
        355   360   365

Val Asn Glu Leu Leu Arg Asp Ile Phe Glu Leu Gly Gln Val Leu Ala
        370   375   380

Thr Glu Asp His Ile Ile Ser Lys Ile Thr Lys Phe Glu Arg His Met
385   390   395   400

Val Asn Met Ala Ser Cys Arg Ala Arg Thr Lys Thr Arg Asn Arg Leu
                405   410   415

Arg Asp Lys Arg Ala Asp Val Val Ala
                420   425

<210> 33
<211> 933
<212> DNA
<213> Ixodes ricinus

<220>
<221> CDS
<222> (32)..(850)

<400> 33

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gattgggaac ctcctattcc tcacttgaaa c atg gct gga ctc cgc tcc tgc    52
                                  Met Ala Gly Leu Arg Ser Cys
                                   1                   5


atc ctc ctg gct ctt gcc act agt gcc ttc gcc ggc tac ctt cac ggt   100
Ile Leu Leu Ala Leu Ala Thr Ser Ala Phe Ala Gly Tyr Leu His Gly
            10                  15                  20


ggc ctt acc cac ggc gct ggg tac ggt tac ggt gtc ggc tac ggt tcc   148
Gly Leu Thr His Gly Ala Gly Tyr Gly Tyr Gly Val Gly Tyr Gly Ser
        25                  30                  35


ggc ctt ggc tat ggc ctt ggc tac ggt tcc ggc ctt ggc tat gga cat   196
Gly Leu Gly Tyr Gly Leu Gly Tyr Gly Ser Gly Leu Gly Tyr Gly His
    40                  45                  50                  55


gct gtt ggc ctt gga cac ggc ttt ggc tat tct ggt ctg acc ggc tac   244
Ala Val Gly Leu Gly His Gly Phe Gly Tyr Ser Gly Leu Thr Gly Tyr
                60                  65                  70


agt gtg gct gcc cca gct agc tac gcc gtt gct gct cca gcc gtc agc   292
Ser Val Ala Ala Pro Ala Ser Tyr Ala Val Ala Ala Pro Ala Val Ser
                75                  80                  85


cgc acc gtt tcc act tac cac gct gct cca gct gtg gcc acc tac gcc   340
Arg Thr Val Ser Thr Tyr His Ala Ala Pro Ala Val Ala Thr Tyr Ala
            90                  95                  100


gct gct cct gtc gcc acc tat gct gtt gct cca gct gtc act agg gtt   388
Ala Ala Pro Val Ala Thr Tyr Ala Val Ala Pro Ala Val Thr Arg Val
        105                 110                 115


tcc ccc gtt cgc gcc gcc cca gct gtg gcc acg tac gcc gcc gct cca   436
Ser Pro Val Arg Ala Ala Pro Ala Val Ala Thr Tyr Ala Ala Ala Pro
120                 125                 130                 135


gtc gcc acc tac gcc gct gct cca gct gtg acc agg gtg tcc acc att   484
Val Ala Thr Tyr Ala Ala Ala Pro Ala Val Thr Arg Val Ser Thr Ile
                140                 145                 150


cac gct gcc ccg gct gtg gcc aat tac gcc gtc gct cca gtc gcc acc   532
His Ala Ala Pro Ala Val Ala Asn Tyr Ala Val Ala Pro Val Ala Thr
                155                 160                 165


tat gcc gct gct cca gct gtg acc agg gtg tcc acc atc cac gcc gct   580
Tyr Ala Ala Ala Pro Ala Val Thr Arg Val Ser Thr Ile His Ala Ala
        170                 175                 180


cca gcc gtg gct agc tac cag acc tac cac gct cca gct gtc gcc act   628
Pro Ala Val Ala Ser Tyr Gln Thr Tyr His Ala Pro Ala Val Ala Thr
        185                 190                 195


gtg gct cat gct cca gct gtg gcc agc tac cag acc tac cac gct gcc   676
Val Ala His Ala Pro Ala Val Ala Ser Tyr Gln Thr Tyr His Ala Ala
200                 205                 210                 215


cca gcc gtg gct acc tac gcc cat gcc gct ccc gtc tac ggc tat ggt   724
```

21

```
Pro Ala Val Ala Thr Tyr Ala His Ala Ala Pro Val Tyr Gly Tyr Gly
            220                  225              230

gtc ggt acc ctc gga tat ggt gtc ggc cac tac ggc tac gga cac ggt    772
Val Gly Thr Leu Gly Tyr Gly Val Gly His Tyr Gly Tyr Gly His Gly
            235                  240              245

ctt ggc agc tac ggc ctg aac tac ggt tac ggc ctc ggc acc tac ggt    820
Leu Gly Ser Tyr Gly Leu Asn Tyr Gly Tyr Gly Leu Gly Thr Tyr Gly
            250                  255              260

gac tac acc acc ctt ctc cgc aag aag aag taaatggcac atctcaagag      870
Asp Tyr Thr Thr Leu Leu Arg Lys Lys Lys
            265                  270

agcccattgg actgccatcg acattcttct tcaataaaag agcccgaaga tggcattatt   930

ttt                                                                 933


<210> 34
<211> 273
<212> PRT
<213> Ixodes ricinus

<400> 34
Met Ala Gly Leu Arg Ser Cys Ile Leu Leu Ala Leu Ala Thr Ser Ala
  1               5                  10                  15

Phe Ala Gly Tyr Leu His Gly Gly Leu Thr His Gly Ala Gly Tyr Gly
            20                  25                  30

Tyr Gly Val Gly Tyr Gly Ser Gly Leu Gly Tyr Gly Leu Gly Tyr Gly
            35                  40                  45

Ser Gly Leu Gly Tyr Gly His Ala Val Gly Leu Gly His Gly Phe Gly
     50                  55                  60

Tyr Ser Gly Leu Thr Gly Tyr Ser Val Ala Ala Pro Ala Ser Tyr Ala
 65                  70                  75                  80

Val Ala Ala Pro Ala Val Ser Arg Thr Val Ser Thr Tyr His Ala Ala
                85                  90                  95

Pro Ala Val Ala Thr Tyr Ala Ala Ala Pro Val Ala Thr Tyr Ala Val
                100                 105                 110

Ala Pro Ala Val Thr Arg Val Ser Pro Val Arg Ala Ala Pro Ala Val
            115                 120                 125

Ala Thr Tyr Ala Ala Ala Pro Val Ala Thr Tyr Ala Ala Ala Pro Ala
            130                 135                 140

Val Thr Arg Val Ser Thr Ile His Ala Ala Pro Ala Val Ala Asn Tyr
145                 150                 155                 160

Ala Val Ala Pro Val Ala Thr Tyr Ala Ala Ala Pro Ala Val Thr Arg
```

22

```
                165                     170                     175
```

Val Ser Thr Ile His Ala Ala Pro Ala Val Ala Ser Tyr Gln Thr Tyr
         180   185   190

His Ala Pro Ala Val Ala Thr Val Ala His Ala Pro Ala Val Ala Ser
         195   200   205

Tyr Gln Thr Tyr His Ala Ala Pro Ala Val Ala Thr Tyr Ala His Ala
     210   215   220

Ala Pro Val Tyr Gly Tyr Gly Val Gly Thr Leu Gly Tyr Gly Val Gly
225   230   235   240

His Tyr Gly Tyr Gly His Gly Leu Gly Ser Tyr Gly Leu Asn Tyr Gly
         245   250   255

Tyr Gly Leu Gly Thr Tyr Gly Asp Tyr Thr Thr Leu Leu Arg Lys Lys
         260   265   270

Lys